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Managing Wildlife Damage:

The Mission of APHIS' Animal Damage Control Program

Wild animals are an important part of our environment, and for centuries they have served our needs in a number of ways. Historically, many species were used for food, clothing, or adornment. But in those earlier years, wildlife was seldom managed. Some species, such as the passenger pigeon, became extinct; and other species, like the bison and beaver, became seriously depleted.

Today, wildlife continues to provide people with a variety of benefits. Wild animals contribute to our enjoyment of outdoor recreational activities such as camping, hiking, photography, and hunting. The knowledge that abundant wildlife exists is important for many people. Diverse wildlife species are major components of a healthy environment; beavers, for example, can create aquatic habitats beneficial to fish and waterfowl.

Wildlife is receiving increased attention as people develop a broadened environmental consciousness. Wildlife is now recognized as having esthetic as well as practical value and is managed by the Federal and State Governments to ensure future abundance. In some instances, however, this abundance has led to conflicts between human and wildlife interests as the following examples illustrate.

- People admire the industrious beaver. However, when beavers disperse and take up residence near people, their dams may cause flooding that damages valuable timber stands, roadways, drainage culverts, and agricultural land. In the Southeastern United States, beavers cause an estimated $100 million in damage annually to public and private property.
- Mountain lions are regarded as regal animals symbolizing wilderness, and as a result of conservation efforts, their populations are thriving across much of the West. In California and Arizona, lion predation on livestock—sheep, cattle, and horses—has increased. There are also occasional encounters between lions and people. In the fall of 1989, a Montana child was in his backyard when a mountain lion attacked and killed him. In January 1991, an adult mountain lion attacked and killed an 18-year-old man

As mountain lion populations increase, so do conflicts with people and livestock.

as he was jogging in the foothills near his Colorado hometown.

• The mournful howl of a coyote symbolizes the wild West for many people. However, coyotes can inflict heavy economic damage to producers of domestic sheep, goats, and cattle. In 1990, sheep and goat producers lost an estimated $27.4 million due to predation. In 1991, cattle producers' losses to predators were worth $41.5 million. Coyotes alone caused $13.5 million in sheep losses, $5.6 million in goat losses, and $24.3 million in cattle losses nationwide. Even in Eastern States, where coyotes were relatively unheard of a decade ago, incidents of predation on livestock are increasing.

• Wildlife can adversely affect public safety and health. Commercial and military aircraft sometimes collide with birds and mammals during taxiing, takeoff, and landing. According to Federal Aviation Administration (FAA) officials, approximately 1,500 collisions between aircraft and wildlife are reported each year. These collisions result in millions of dollars' worth of damage. The potential for human injury and death is in-

Each year, coyotes cause millions of dollars' worth of losses to sheep, goat, and cattle producers.

creased significantly when wildlife is not kept away from airports and runways.
• Wildlife-borne diseases of significant concern to humans include rabies, bubonic plague, and histoplasmosis. These diseases can be carried, reservoired, or transmitted by wildlife to other wildlife, domestic livestock, and people. During 1988, the U.S. Public Health Service reported 4,724 cases of animal rabies in 47 States, the District of Columbia, and Puerto Rico. Of the reported cases, 88 percent were in wildlife. Rabies prevention costs about $300 million per year in the United States.

Many people do not realize that everyone is adversely affected by the actions of wildlife at one time or another. Every consumer pays more for commodities when supplies are decreased or damaged by wildlife. However, the total value of the damage is extremely difficult to estimate on a national scale. According to a survey conducted by USDA's National Agricultural Statistics Service, more than half of U.S. farmers experience economic loss from wildlife damage. Birds cause an estimated annual loss to U.S. agriculture of $100 million. During 1 year in Pennsylvania, white-tailed deer caused crop losses totalling $30 million. The annual total dollar loss in the United States from wildlife damage is estimated to exceed $500 million.

ADC has joined with the FAA and the U.S. Air Force in an effort to reduce bird–aircraft collisions at airports.

Maintaining a balance between human and wildlife needs requires sensitivity. In addressing the conflicts between wildlife and people, wildlife managers must thoughtfully consider not only the needs of those directly affected by wildlife damage but also a range of environmental, sociocultural, and economic factors.

Wildlife is a valuable public resource. Federal and State Governments are responsible for maintaining healthy, stable wildlife populations. Accordingly, when wildlife causes damage, government has an obligtion to control that damage. Wildlife damage-control responsibilities and authorities fall to different agencies depending on the species, type of problem, and location. The U.S. Department of the Interior's Fish and Wildlife Service has primary responsibility for managing migatory birds and federally listed threatened and endangered species. State wildlife management agencies have primary authority for the management of nonmigratory birds and all other species of wildlife not federally listed as threatened

or endangered. Legislation mandates that the U.S. Department of Agriculture (USDA) provide assistance upon request of State Governments, private individuals, and other Federal agencies to control and prevent damage and disease caused or carried by wildlife. Cooperative agreements provide for the management of various species, including management for the purpose of controlling damage caused by wildlife.

Animal Damage Control (ADC), a unit of USDA's Animal and Plant Health Inspection Service (APHIS), assists in solving problems that are created when species of wildlife cause damage to agriculture. ADC personnel also assist with wildlife problems involving urban or natural resources as well as threats to human health and safety.

ADC is committed to the well-being of the environment and wildlife and acts as a protective buffer between wildlife and people. Failure to provide solutions to wildlife damage sometimes leads angry individuals to take actions that are ecologically and biologically damaging. Professional wildlife biologists and technicians employed by APHIS' ADC program can sometimes prevent such unwise reactions. By providing a biologically sound, economically efficient response coupled with education to individuals experiencing damage, ADC benefits individuals, the public, wildlife, and the environment.

ADC is a Federal cooperative program that responds to requests by persons and agencies needing help in controlling wildlife damage. Its field operations are conducted in accordance with all Federal and State guidelines and in cooperation with wildlife management professionals from Federal and/or State agencies. In all instances, ADC programs are conducted to ensure no negative impact on wildlife populations.

ADC helps reduce wildlife damage to
- Agricultural crops—grain, sunflowers, vegetables, fruit, and nuts;
- Livestock—cattle, sheep, goats, swine, horses, and poultry;
- Commercial forests and forest products;
- Aquaculture—cultivated trout, catfish, bait fish, and marine shellfish and lobsters;
- Natural resources—wildlife, wildlife habitat, water quality, and rangelands;
- Urban and industrial property—private homes, public buildings, airports, golf courses, and reservoirs;
- Public health and safety—preventing bird strikes at airports and controlling wildlife-borne diseases; and
- Threatened or endangered species—

such as the whooping crane, California least tern, Aleutian goose, San Joaquin kit fox, and roseate tern.

Canada goose populations have increased dramatically in recent years, causing damage to real estate—from golf courses to swimming pools.

Most of ADC's efforts are conducted on private land, but work is done on some public lands as well (less than 10 percent of federally owned land).

Cost sharing is an integral component of the ADC program. Supervised primarily by ADC personnel, most field activities are funded in part by Federal, State, or local agencies; industry groups; or individuals requesting wildlife damage-control assistance. When requested, ADC provides help through technical assistance and direct control.

Technical Assistance

Technical assistance involves providing advice, recommendations, information, or materials for use in managing wildlife damage problems and helping threatened and endangered species to thrive. ADC employees also help identify the responsible wildlife species and determine the extent of the damage. ADC may provide recommendations concerning habitat modification, cultural practices to reduce the likelihood of wildlife damage, behavior modification of the troublesome wildlife species, or ways to reduce specific wildlife populations to control the amount of damage they cause. ADC personnel may suggest lethal or nonlethal techniques to resolve wildlife damage problems. Such assistance always takes into account environmental factors and relevant laws and regulations. ADC sometimes recommends that regulatory agencies issue permits to allow resource owners to deal with wildlife problems.

Direct Control

Some problems caused by wildlife species are too complex or difficult for any one individual, group, or agency to solve. For example, dealing with thousands of birds roosting in an urban neighborhood is beyond the capabilities of most individuals. Likewise, capturing coyotes, bears, mountain lions, or other large animals that are preying on livestock usually requires specialized equipment and skills. In these instances, ADC provides field personnel to help whoever is experiencing the problem. Direct control is usually provided when the resource owner's efforts, such as habitat

Techniques Recommended by ADC

modification or husbandry practices, have proven ineffective and technical assistance alone is inadequate. ADC staff consider practical methods for resolving wildlife damage problems and take action by implementing the most strategically appropriate measures.

Whether or not a particular action is appropriate or practical depends on a variety of factors, including the species causing damage, the type of damage and its geographic location, and laws and regulations. In general, three types of actions can be considered for resolving instances of animals damaging a resource.

One approach is to move the resource away from the animal causing damage. Moving sheep out of a pasture to reduce the likelihood of predation by coyotes or moving beehives to an area away from marauding black bears are examples of this approach.

A second possibility is to exclude an animal from the resource. Using scare tactics to keep birds away from crops or electric fencing to keep predators away from livestock are examples of this technique.

The third possibility is to relocate or remove the animal causing the problem. Snaring and removing a bear from a sheep allotment or trapping a coyote that has been killing calves are examples of this approach.

Often, the most effective strategy to resolve wildlife damage problems is to integrate the use of several methods or approaches, either all at once or in turn. This is known as integrated pest management (IPM). ADC uses and recommends IPM to reduce damage by wildlife while minimizing any harmful effects of the control measures on humans, nontarget wildlife, domestic livestock, and the environment. IPM may incorporate husbandry techniques like shed lambing, modifying habitat (e.g., removing bird roosting cover adjacent to crops), or using trapping, snaring, or shooting methods.

ADC personnel use and recommend the best methods available, but some of the methods currently used in wildlife damage control are not new. For example, cage and leghold traps have been used for hundreds of years. They continue to be important in wildlife management for situations where no other alternative is available. Leghold traps can be modified with padded or offset closures to make them more humane for target animals and to facilitate the re-

lease of nontarget animals back to the wild with little or no injury.

In selecting control techniques for specific damage situations, ADC professionals consider the species responsible for the damage; the magnitude, geographic extent, duration, and frequency of the resource loss; and the likelihood of the conflict's being repeated. In choosing a control technique, ADC specialists consider the biological and legal status of the target species and potential nontarget species, local environmental conditions and possible environmental impacts, and the practicality of available control options.

The ADC program does not exterminate native wildlife species because such efforts are contrary to ADC policy, are biologically unwise and impractical, and are often illegal.

APHIS spends millions of dollars each year on research to develop and improve techniques for reducing wildlife damage. Most of this research is conducted by APHIS scientists at the Denver Wildlife Research Center, which is headquartered in Colorado with 10 field

Research activities include tracking bird movements by means of radiotelemetry.

stations throughout the United States and two stations in foreign countries. Major research activities include developing data to support Environmental Protection Agency registrations for pesticides and materials used to control vertebrates; developing nonchemical control techniques; evaluating the effectiveness and safety of new and existing control methods; studying the biology and behavior of wildlife species that cause damage; assessing wildlife damage; and providing scientific information on wildlife damage management to the ADC program, other governmental agencies, and the public.

Beavers cause damage through the flooding of property, roads, crops, and forests.

The efforts of APHIS' ADC program often result in higher economic returns to those producing livestock or other products. For example,

- Mississippi catfish farmers spent roughly $2.1 million to help control cormorants and other fish-eating birds causing an estimated $5.4 million damage.
- ADC activities directed toward depredating birds in 12 cornfields in South Dakota saved 123 bushels of corn per day.
- Beaver control in Mississippi costing about $11,000 saved an estimated $198,600 in timber.
- Beaver control in Kentucky and Tennessee costing $55,000 over an 18-

month period saved timber resources valued at $1.5 million.

Resources protected from wildlife damage benefit the public in the form of lower consumer costs and the continued availability of a range of commodities. An effective ADC program makes it possible to use fewer acres to produce sufficient food resources for the Nation. This also allows for reduced use of fossil fuels, fertilizers, and pesticides.

An environmental impact statement (EIS), written in accordance with the procedures established by the National Environmental Policy Act, indicated that the ADC program has no nationally significant adverse impact on wildlife species diversity or abundance. Furthermore, the EIS indicated that the program provides substantial benefits to certain threatened and endangered species, has a positive impact on protecting selected natural resources, and promotes the maintenance of human health and safety.

Additional Information: For further information about ADC, contact your State's office of USDA, APHIS, ADC, or write to USDA, APHIS, ADC, P.O. Box 96494, Washington, DC 20090-6494.

Fish-eating birds represent a major threat to the profitability of aquaculture operations.

All programs of the U.S. Department of Agriculture are available to anyone without regard to race, creed, color, sex, disability, religion, national origin, or political belief.

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